



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: NK-86  
 UNIQUE ID NUMBER: 1KK003  
 COMBUSTOR:  
 ENGINE TYPE: MTF

BYPASS RATIO: 1.3  
 PRESSURE RATIO ( $\pi_{00}$ ): 13.4  
 RATED THRUST ( $F_{00}$ ) (kN): 127.5

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	157.5	171.1	43.7	28.4
AS % OF ORIGINAL LIMIT	803.5	145.0	65.5	128.5
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			81.9	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			108.2	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			122.9	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			163.4	

### DATA STATUS

- PRE-REGULATION  
 - CERTIFICATION  
 x REVISED (SEE REMARKS)

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
 - DEDICATED ENGINES TO PRODUCTION STANDARD  
 x OTHER (SEE REMARKS)

### EMISSIONS STATUS

- DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	2.400	0.50	3.90	12.80	
CLIMB OUT	85	2.2	1.600	0.60	4.20	12.10	
APPROACH	30	4.0	0.580	1.20	9.30	5.10	
IDLE	7	26.0	0.210	52.00	54.40	2.70	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			779	17379	20396	5440	-
NUMBER OF ENGINES				3	3	3	1
NUMBER OF TESTS				3	3	3	1
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				135.0	158.2	41.3	22.1
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	102.7-103
TEMPERATURE (K)	290-291
ABS HUMIDITY (kg/kg)	0.00915

### FUEL

SPEC	TS-1
H/C	2
AROM (%)	18.5

MANUFACTURER: KKBM  
 TEST ORGANIZATION: State Inst for Civ Aviation  
 TEST LOCATION: Sheremetjevo, Moscow  
 TEST DATES: 15/06/1989

### REMARKS

1. Data obtained on aircraft (I1-86)
2. In-service engine(s), tested after overhaul

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)